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GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR
(GIET UNIVERSITY)

M.Sc. (Third Semester - Regular) Examinations, December – 2024

22CHPE304– Environmental and Analytical Chemistry

(M.Sc.- Chemistry)

Time: 3 hrs | Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

PART – A **(2 x 10 = 20 Marks)**

Q.1. Answer ***ALL*** questions		CO #	Blooms Level
a.	Write the principle of automatic monitoring of Nitrogen oxides.	C01	K1
b.	Write the two common ways for the removal of airborne particulates.	C02	K1
c.	Describe the health problems associated with high level of fluoride in drinking water.	C04	K2
d.	Define Radio Chromatography.	C01	K1
e.	Explain the determination of uranium from its salt with help of fluorimeter.	C03	K1
f.	Define singlet and triplet state	C04	K2
g.	Explain carbon dating.	C02	K1
h.	Difference between carbonate and non-carbonate hardness.	C02	K1
i.	Write two uses of radio isotopes in agriculture.	C04	K2
j.	Explain Global warming.	C01	K1

PART – B **(10 x 5=50 Marks)**

Answer ***ANY FIVE*** questions		Marks	CO #	Blooms Level
2. a.	Differentiate between Fluorimetry and Phosphorimetry. Describe their applications.	6	C02	K1
b.	How will you find out surface area of powder or precipitate?	4	C02	K2
3.	Describe the principles of Flame ionization detection technique used for detection of hydrocarbons.	10	C03	K1
4. a.	Differentiate between water quality characteristics of surface water and ground water resources.	6	C03	K1
b.	What is dissolved oxygen? What are the applications of dissolved oxygen analysis?	4	C01	K1
5.a.	Explain the steps to determine the hardness of water.	6	C04	K2
b.	Write different factors that may affect the fluorescence characteristics of a molecule.	4	C01	K1
6.	Describe about analysis of water pollutants. Give a brief idea of the important parameters like colour, turbidity and electrical conductivity.	10	C03	K2
7.a.	Define atomic absorption spectroscopy? Describe its principle and instrumentation	6	C04	K2
b.	Explain the importance of hallow cathode lamp in atomic absorption spectroscopy.	4	C03	K1
8. a.	Write short notes on (i) Radioactive decay (ii) Isotropic dilution	6	C04	K2
b.	Discuss the benefits and problems associated with the use of radioactive isotope in industry.	4	C03	K1